

WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:  
an input unit for successively receiving as input a first image signal  
representing each pixel;

5 a thresholding unit for performing thresholding on said inputted  
first image signal using a prescribed threshold value; and

a distributing unit for distributing a value used in the thresholding  
in a succeeding pixel, wherein

10 said thresholding unit performs thresholding based on the value  
distributed by said distributing unit and on a specific value determined for  
each pixel, and

said distributing unit calculates a value to be distributed to the  
succeeding pixel based on an input signal and an output signal of said  
thresholding unit and on the specific value determined for each pixel.

2. The image processing apparatus according to claim 1, wherein  
said distributing unit distributes a value obtained by adding the  
specific value determined for each pixel to a result of operation based on a  
threshold value used in said thresholding unit and on an output signal from  
5 said thresholding unit, and

said thresholding unit generates a threshold value based on a result  
obtained by subtracting the specific value determined for each pixel from the  
value distributed by said distributing unit, and performs thresholding.

3. The image processing apparatus according to claim 1, wherein  
said distributing unit distributes a value obtained by subtracting the  
specific value determined for each pixel from a result of operation based on  
the input signal and the output signal of said thresholding unit, and

5 said thresholding unit performs thresholding after correction of the  
first image signal input based on a result obtained by adding the specific  
value determined for each pixel to the value distributed by said distributing  
unit.

4. The image processing apparatus according to claim 1, wherein said distributing unit distributes a value obtained by subtracting the specific value determined for each pixel from a result of operation based on the input signal and the output signal of said thresholding unit,

5 said input unit successively receives as input a result obtained by subtracting the specific value determined for each pixel from the first image signal, and

10 said thresholding unit performs thresholding after correction of a value inputted by said input unit based on the value distributed by said distributing unit.

5. The image processing apparatus according to claim 1, wherein the specific value determined for each pixel is a value obtained by multiplying the first image signal by a prescribed coefficient.

6. The image processing apparatus according to claim 1, further comprising:

a pattern generating unit for generating a pattern for each pixel, wherein

5 the specific value determined for each pixel is a value obtained by multiplying a value generated by said pattern generating unit by a prescribed coefficient.

7. The image processing apparatus according to claim 5, further comprising:

a coefficient setting unit for setting said prescribed coefficient at will.

8. The image processing apparatus according to claim 6, further comprising:

a coefficient setting unit for setting said prescribed coefficient at will.

9. An image processing method, comprising the steps of:  
successively inputting a first image signal representing each pixel;  
performing thresholding on said inputted first image signal using a  
prescribed threshold value; and

5 distributing a value used in the thresholding in a succeeding pixel,  
wherein

said thresholding step is done based on the value distributed by said  
distributing unit and on a specific value determined for each pixel, and

10 said distributing step calculates a value to be distributed to the  
succeeding pixel based on an input signal and an output signal of said  
thresholding step and on the specific value determined for each pixel.

10. The image processing method according to claim 9, wherein  
said distributing step distributes a value obtained by adding the  
specific value determined for each pixel to a result of operation based on a  
threshold value used in said thresholding step and on an output signal from  
5 said thresholding step, and

said thresholding step generates a threshold value based on a result  
obtained by subtracting the specific value determined for each pixel from the  
value distributed by said distributing step, and performs thresholding.

11. The image processing method according to claim 9, wherein  
said distributing step distributes a value obtained by subtracting the  
specific value determined for each pixel from a result of operation based on  
the input signal and the output signal of said thresholding step, and

5 said thresholding step performs thresholding after correction of the  
first image signal input based on a result obtained by adding the specific  
value determined for each pixel to the value distributed by said distributing  
step.